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Case report

A case of adverse drug reaction induced by dispensing error

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ABSTRACT

Objective: To report about a case of acute renal failure due to absence of communication between physician and patient.
Case summary: A 78 year old man with human immunodeficiency virus (HIV) accessed our hospital and was brought to our attention in August 2011 for severe renal failure. Clinical history revealed that he had been taking highly active antiretroviral therapy with lamivudine/abacavir and fosamprenavir since 2006. In April 2011 due to an augmentation in creatinine plasma levels, a reduction in lamivudine dosage to 100 mg/day and the prescription of abacavir 300 mg/day became necessary.
Unfortunately, the patient took both lamivudine and abacavir therefore the association of the two medications (lamivudine/abacavir) lead to asthenia and acute renal failure within a few days.
Conclusions: This case emphasizes the importance about how physicians must pay very careful attention during drug prescription, most particularly, as far as elderly patients are concerned. In fact, communication improvement between physicians and patients can prevent increase of adverse drug reactions related to drug dispensing, with consequential reduction of costs in the healthcare system.

1. Introduction

Medication errors represent avoidable accidents that can induce worsening of patient's health status and consequential increase in healthcare costs.[1–3]

Our report is based on a case about a prescription error due to inadequate/lack of communication between clinical doctors and a patient.

2. Case

A 78 year old caucasic man (height 162 cm, weight 58 kg) with diabetes, treated with oral hypoglycaemic drugs (Repaglinide and Metformine), no history for alcohol abuse or smoking, was brought to our observation in August 2011 for Human Immunodeficiency Virus (HIV) infection evaluation.

History revealed that the man had been positive for HIV infection since 2006 and since then treated with both fosamprenavir (Telzir®; 700 mg/day, tablets) and the fixed association: abacavir (600 mg) + lamivudine (300 mg) (Kivexa®, tablets) with a satisfactory virologic suppression (HIV-RNA plasma levels <40 copies/mL by real-time PCR), lymphocytes T CD4+ 809 cells/mm^3 (normal range 500–1000 cells/mm^3).

On July 2011, blood chemical analysis showed high levels of creatinine (2.38 mg/dL; normal values up to 1.2 mg/dL), uremia (84 mg/dL; normal range 10–50 mg/dL) and ureic acid (7.8 mg/dL; normal range 3.5–7 mg/dL). Renal failure diagnosis was made, and in order to reduce the lamivudine dosage, the formulations of lamivudine 100 mg/day (Epivir®, oral solution) and abacavir 300 mg/day (Ziagen®, tablets) were prescribed.

About three weeks later, on August 2011, the patient returned to our observation for asthenia. Blood chemical analysis documented the presence of an acute renal failure with high levels of creatinine (2.5 mg/dL) and uremia (109 mg/dL), and low levels of sodium (133 mEq/L; normal range 136–145 mEq/L) and chlorine (8.20 mEq/L; normal range 8.50–10.50 mEq/L). Blood pressure was 140/90 mmHg, heart frequency was 78 beat/min, while hemoglobin was 14.6 g/dL (normal range 13–16 g/dL).

Pharmacological evaluation revealed that the patient was being treated with fosamprenavir (Telzir®; 700 mg/day), abacavir

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(600 mg) + lamivudine (300 mg) (Kivexa®), lamivudine 100 mg/day (Epivir®) and abacavir 300 mg/day (Ziagen®).

Clinical evaluation performed by forensic doctors and pharmacologists documented a direct association between medication miscalculation and acute renal failure.

Promptly, the formulation abacavir (600 mg) + lamivudine (300 mg) (Kivexa®) was dismissed resulting in asthenia rehabilitation within 7 days.

During the follow-up, 3 weeks later, blood chemical findings revealed a decrease in creatinine levels (1.9 mg/dL), the normalization of uremia (47 mg/dL), sodium (137 mEq/L) and chlorine (8.5 mEq/L) levels, without increase in HIV-RNA plasma levels (HIV-RNA plasma levels <40 copies/mL).

Then again, after 6 months a new follow-up evaluation was made on March 2012, and both a normalization in creatinine plasma levels and reasonable virologic suppression (HIV-RNA plasma levels <40 copies/mL) were documented therefore no drug adjustment was required.

3. Conclusions

This paper authenticates our report on adverse drug reactions (ADR) associated to drug dispensing in an elderly patient. Although pharmacotherapy is beneficial in the elderly, it can cause the development of ADRs which are more frequent in older aged patients than in young people even if the drug show a higher therapeutic index.[4–7]

In this case we are illustrating a case about an old man positive for HIV infection that developed renal failure during medical treatment with the fixed association of abacavir (600 mg) + lamivudine (300 mg), therefore physicians reduced the dosage of lamivudine from 300 mg to 100 mg prescribing the single medication of lamivudine 100 mg/day and abacavir 300 mg/day which provided good virological response. Unfortunately the physicians failed to advise the patient to dismiss the fixed association of abacavir (600 mg) + lamivudine (300 mg) therefore the patient took both abacavir (600 mg) + lamivudine (300 mg), lamivudine 100 mg/day and abacavir 300 mg/day resulting in acute renal failure.

Previously Strand et al.,[8] reported that ADRs as well as medication errors represent frequent drug-related problems in the elderly.

We recently reported a case on adverse drug events induced by pharmacy dispensing errors, and we suggested to carry out better counseling in order to reduce the risk of ADRs during drug dispensing.[9]

In this case, we are now reporting about a patient that developed severe renal failure due to inadequate communication between hospital physicians and the patient, suggesting that the lack of communication can represent medical negligence and nonetheless an important problem for many people working in health facilities (i.e. pharmacists, doctors, nurses).

In conclusion, it is important that clinicians spend more time explaining and giving detailed information to the patients on their medical treatment, dosages and the interval between each drug consumption. Counseling could be useful to reduce ADRs development as well as medication errors and related healthcare costs.

Conflict of interests

No conflict of interest to declare.

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Ethical approval

None.

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